

## REMARKS

The Office Action mailed July 2, 2004 has been carefully reviewed and the foregoing amendments are made in response thereto. In view of the amendments and the following remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

At the outset, the specification has been amended herein to remove embedded hyperlinks and other forms of browser-executable code. Claims 1 and 50 have been amended to clarify that the adaptor ligated fragments have regions of complementarity between the 5' and 3' ends of individual strands of the fragments, allowing for hairpin formation as shown in Figure 2. Claims 1 and 50 have been amended to require that fragments that are between 400 and 800 base pairs are preferentially amplified. Support for this amendment may be found in original claim 36. Claims 1 and 50 have been further amended to require that the concentration of PCR primer in the reaction is between 0.4 and 0.8  $\mu$ M. Support for this amendment may be found on page 28, line 3. Claims 1 and 50 have also been amended to require that the region of complementarity is between 10 and 30 bases and that the PCR reaction comprise a plurality of cycles comprising an incubation step at about 72°C for between 10 and 30 seconds. Support for these amendments may be found on page 17, lines 16-20 and page 18, lines 16-18, respectively. Claims 16-20 and claim 24 have also been amended herein. Applicants believe that no prohibited new matter has been introduced by these amendments.

### Objection to the Specification

Applicants have amended the specification to remove the browser executable code.

### Claim Interpretation

In paragraph 4 the Examiner indicates that requirement that the ends of the fragments be complementary in claims 3-5 is broad enough to permit two different interpretations. Applicants have amended claim 1 to clarify that the complementarity is

between the 5' end of one strand of the fragment and the 3' end of the same strand, allowing formation of a hairpin as shown in figure 2.

### **Information Disclosure Statement**

In paragraph 5 the Examiner indicates that the information disclosure statement filed July 30, 2002 fails to comply with 37 CFR 1.98(a)(2) and that the information referred to therein has not been considered. Applicants note that the Examiner has initialed each reference on the 1449 form filed July 30, 2002. In addition, Applicants note that each of the references cited on the 1449 form filed July 30, 2002 are included in the image file wrapper for the application, accessible through PAIR. Applicants believe that each of the information disclosure statements filed in the instant application complies with 37 CFR 1.98(a)(2) and respectfully request that each reference provided therein be considered by the Examiner. Applicants also note that on the 1449 form received August 12, 2002 the Examiner has not initialed next to Reyes et al. 6,107,023 and respectfully request that the Examiner consider this reference and initial the 1449 form.

### **Rejection of Claims 1-6, 10, 15-19, 24-36, and 50 under 35 U.S.C. § 102(b)**

The Examiner rejected Claims 1-6, 10, 15-19, 24-36, and 50 as being anticipated by Sorge et al (U.S. Patent 6,060, 245). Applicants respectfully traverse this rejection.

In paragraph 7 the Examiner indicates that Sorge teaches optimization of PCR conditions. Sorge et al. teaches optimization of PCR conditions "to prepare full-length PCR products" (column 73, lines 63-64). The optimization taught by Sorge et al. is optimization for generating longer PCR products and not PCR products of a selected size range with an upper and lower boundary. Amended claims 1 and 50 require PCR

conditions that preferentially amplify adaptor ligated fragments that are longer than a lower size limit (400 base pairs) but shorter than an upper size limit (800 base pairs). Complementarity between the ends of the strands of the fragments in combination with a PCR primer concentration between 0.4 and 0.8  $\mu$ M contribute to a decrease in the efficiency with which fragments under 400 base pairs are amplified and shorter extension times contribute to a decrease in the efficiency with which fragments greater than 800 base pairs are amplified. Sorge et al. fails to teach or suggest the amplification conditions required in amended claims 1 and 50. Applicants respectfully request that this rejection be withdrawn in view of the foregoing arguments and the amendments to independent claims 1 and 50.

**Rejection of Claims 7-9, 11-14 and 51-54 Under 35 U.S.C. § 103(a)**

In paragraph 10 claim 7-9, 11-14 and 51-54 are rejected over Sorge et al. (U.S. Patent 6,060,245). Claims 7-9, 11-14 and 51-54 have been canceled herein.

**Rejection of Claims 3-5 Under 35 U.S.C. § 103(a)**

In paragraph 11 claims 3-5 are rejected over Sorge et al. in view of Shagin. Claims 3-5 have been canceled herein.

**Rejection of Claims 20-23 Under 35 U.S.C. § 103(a)**

In paragraph 12 the Examiner has rejected claim 20-23 over Sorge et al. (US Patent 6,060,245) in view of Sorge et al. (US 20020119448). As discussed above, Sorge et al. (U.S. Patent 6,060,245) fails to teach or suggest optimization of PCR conditions that result in preferential amplification of a subset of fragments that are within a size

range with an upper size limit and a lower size limit as required by amended claims 1 and 50. Sorge et al. (US 20020119448) also fails to teach or suggest such optimization. Reconsideration and withdrawal of the rejection of claims 20-23 is respectfully requested.

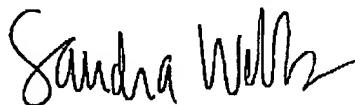
### CONCLUSION

In view of the foregoing remarks, Applicants respectfully request withdrawal of all outstanding rejections and early notice of allowance to that effect. Should the Examiner believe that a telephonic interview would expedite prosecution and allowance of this application, he is encouraged to contact the undersigned at his convenience.

If the Examiner has any questions pertaining to this application or feels that a telephone conference would in any way expedite the prosecution of the application, the Examiner is requested to contact the undersigned at (408) 731-5768.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account 01-0431.

Respectfully submitted,



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